IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant	:	Nicholas Lee	) Confirmation No.: 8624
			)
Appl. No.	:	09/650,173	)
			)
Filed	:	August 29, 2000	)
			)
For	:	VOICE INTERFACE AND METHODS FOR IMPROVING RECOGNITION ACCURACY OF VOICE SEARCH QUERIES	))))
			)
Examiner	:	Opsasnick	)

<u>REPLY BRIEF</u>

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Reply Brief is responsive to the revised Examiner's Answer issued on September 17, 2007 (hereinafter the "Examiner's Answer"), and supplements the arguments made in Appellant's Third Appeal Brief filed on June 29, 2006.

<u>Preliminary Matters</u>

In comparison to the Office Action mailed on February 3, 2006 (to which the Third Appeal Brief is responsive), the Examiner's Answer no longer asserts that Claim 50 is unpatentable over Brotman in view of Gould (U.S. Pat. 6,839,669). It is not clear from the Examiner's Answer whether this alternative ground for rejecting Claim 50 is being withdrawn, or whether the omission is inadvertent.

The Examiner's Answer also differs from said Office Action in that it no longer refers to the second of the two Weber patents, Pat. No. 6,532,444. Based on the cover page (PTO-90C) included with the Examiner's Answer (as revised), this change is intentional, and represents a correction to the text of the rejection.

Pages 4-11 of the Examiner's Answer appear to merely repeat the rejections set forth at pages 4-11 of said Office Action, except that the citations to the Weber '444 patent have been removed (as noted above). Because the Third Appeal Brief fully addresses the issues raised at pages 4-11 of the Examiner's Answer, Appellant's remarks herein are limited to the issues raised in the "Response to Arguments" section beginning at page 12 of the Examiner's Answer.

<div align="center">Characterizations of References</div>

Beginning at page 12, the Examiner's Answer takes issue with Appellant's characterizations of the Loghmani, Brotman and Weber references, and questions the relevance of some of these characterizations. As explained below, Appellant respectfully submits that these characterizations are both accurate and relevant.

Regarding Appellant's characterization of Loghmani, the Examiner disagrees with Appellant's statement that "the spoken search query is processed without using a voice recognition grammar to initially convert the search query to text." In connection with this issue, the Examiner cites col. 6, lines 20-30 of Loghmani. The cited portion of Loghmani involves matching a user's utterance of a street name to a corresponding entry in a database. Nothing in the cited passage suggests that the user's utterance is initially converted to text before being matched to the database entry. Rather, the passage makes clear that the matching is performed using the disclosed Audio Vector Valuation system. (As explained in Appellant's Third Appeal Brief, the Audio Vector Valuation system does not initially convert users' search query utterances to text). Thus, even if, *arguendo*, the user's utterance of the street name could be considered a search query, Appellant's assertion that the "search query is processed without using a voice recognition grammar to initially convert the search query to text" is still accurate.

With respect to Brotman, the Examiner questions the relevance of Appellant's statement that Brotman "is not directed to the capture of search queries." Examiner's Answer at page 12, last paragraph. This statement indicates merely that the text strings captured in Brotman are not "search queries." Appellant respectfully submits that this statement is relevant because all of Appellant's independent claims recite a "search query" or recite a "query" for conducting a "search."

With respect to Weber '524, the Examiner questions the relevance of the following statement at page 10 of the Third Appeal Brief: "In contrast to the methods disclosed in the

present application, Weber's method of using context-specific voice recognition grammars is not well suited for searching large domains of items, such as a domain of millions of book titles or music titles." This statement—and the explanation following the statement—identify a significant deficiency in Weber's process for selecting the appropriate grammar for interpreting the user's utterance. Because many of Appellant's claims address this deficiency (such as by generating the grammar based on a partial user entry of the search query as in Claim 1), Appellant respectfully submits that the identified deficiency is relevant to the issue of non-obviousness.

<u>Independent Claim 1</u>

Regarding Claim 1, the Examiner's Answer asserts, in essence, that Brotman teaches or suggests a process in which the user enters only a subset of the characters of the desired character string. Examiner's Answer beginning at page 13, last paragraph. In support, the Examiner points to the following portions of Brotman: col. 4, lines 36-41; block 630 of Fig. 2; col. 4, lines 20-28; col. 6, lines 15-67; and col. 6, line 53 to col. 7, line 17. The referenced portions of Brotman, however, make clear that the user has to enter the entire character sequence, and not just a subset or portion of this character sequence. For instance, in the example of col. 4, lines 16-41, the desired character string is G-R-A-N-D, and the user depresses the following telephone keys 4-7-2-6-8. Similarly, at col. 6, the desired character string is A-D-3-4-5-M, and the user presses the following keys: 2-3-3-4-5-6. Thus, the Examiner's characterization is not accurate.

With respect to motivation to combine, Appellant respectfully submits that the Examiner has not identified a reason that would have led one skilled in the art to combine Brotman and Loghmani. See *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727; 82 USPQ2d 1385, (2007) (noting that "it can be important to identify a reason that would have prompted a person of ordinary skill in the art to combine the elements as the new invention does."). In connection with this issue, the Examiner points to increased speech recognition accuracy as providing a motivation to add Loghmani's processes to Brotman. Examiner's Answer at page 14, lines 8-14. As explained in Appellant's Third Appeal Brief, however, Brotman already enables the user to verify the accuracy of the entered character string, rendering Loghmani's spoken-query processing methods completely unnecessary. This is explained at page 12, third full paragraph, of the Third Appeal Brief:

> [I]f Brotman's process were used to capture and verify a search query string intended by a user, there would be no need to additionally use Loghmani's process to interpret the user's utterance of the full search query. This is because Brotman's process allows the user to verify that the intended character string has been properly identified by the system. Once the search query string has been properly identified, it can be processed using conventional textual query processing methods, and Loghmani's spoken query processing methods become unnecessary.

Moreover, as further explained in the Third Appeal Brief, the asserted addition of Loghmani would apparently require the user to perform the additional step of uttering the full search query. *See* Third Appeal Brief at page 12, fourth full paragraph. (Appellant respectfully disagrees with the Examiner's statement that "Brotman directly dispels this allegation.") Given this added burden, and the apparent lack of any increase in accuracy, one skilled in the art would not have been motivated to combine Brotman and Loghmani.

For these reasons, and the additional reasons set forth in the Third Appeal Brief, the Examiner has not established a prima facie case of obviousness with respect to Claim 1.

<p align="center">Claims 2, 9, 15, 26, 29, 31 and 39</p>

With respect to Claims 2, 9, 15, 26, 29, 31 and 39, the Examiner's remarks at page 15 of the Answer are fully addressed in the above comments and the Third Appeal Brief.

<p align="center">Dependent Claims 13 and 23</p>

In connection with Claims 13 and 23, the Examiner's Answer asserts that "Brotman teaches limited grammar size." Examiner's Answer at page 15, second to last paragraph, citing col. 5, lines 15-18. Even if this assertion is true, however, it does not follow that Brotman teaches or suggests "determining in real time whether a number of entered characters is sufficient to produce a grammar that falls below a threshold size," as recited in each of these claims. Indeed, none of the art of record suggests this feature.

<p align="center">Dependent Claim 25</p>

With respect to Claim 25, Appellant respectfully disagrees that Loghmani's disclosure of HTML and other markup language browsers teaches or suggests the claimed use of voiceXML coding. In this regard, Claim 25, when read in conjunction with Claim 24 (from which it depends), recites the use of VoiceXML to perform specific functions. As nothing in Loghmani

<p align="center">-4-</p>

suggests the use of VoiceXML, HTML, or any other markup language to perform the recited functions, the referenced portion of Loghmani does not support the rejection.

Independent Claim 33

With respect to independent Claim 33, the Examiner's Answer states that Brotman's method uses a two-phase process in which the user enters the characters on the telephone keypad and then utters these characters. Examiner's Answer at page 16, third paragraph. While this statement may be true, it does not address the claim limitations at issue. For example, nothing in the Examiner's assertion suggests that Brotman teaches or suggests "generating a grammar at least in-part by extracting text from the set of search result items," or "using the grammar to interpret an utterance by the user of an additional query term." Indeed, Brotman and the other applied references fail to suggest these limitations.

Independent Claims 43

Regarding Claim 43, the Examiner's Answer merely asserts that Brotman "teaches the analysis of an utterance." Examiner's Answer at page 16, fourth paragraph. Again, even if true, this assertion fails to address the claim limitations at issue. For example, nothing in the Examiner's assertion suggests that Brotman teaches or suggests "interpreting the voice utterance [of the search query] using a voice recognition grammar that corresponds to the sequence of keys depressed by the user."

Dependent Claim 47

In connection with Claim 47, the Examiner's Answer appears to assert that the phrase "previously entered" in the cited passage of Brotman (col. 4, lines 45-51) teaches or suggests the claimed use of "previously-generated voice recognition grammars." Examiner's Answer at page 16, fifth paragraph. Appellant respectfully disagrees. The phrase "previously entered" in the referenced passage refers to the timing with which letters are entered by the user, and not to the timing with which voice recognition grammars are generated. Further, the referenced passage says nothing to suggest "a repository of ... voice recognition grammars in which different voice recognition grammars correspond to different sequences of characters" as claimed.

<u>Comment regarding failure to address combination of references</u>

In connection with Appellant's arguments generally, the Examiner's Answer additionally asserts the following: "Appellant has failed to provide a direct compare/contrast between the current claim scope and the combination of references as presented in the office action rejections." Examiner's Answer at the paragraph bridging pages 16 and 17, citing *In re Keller*. Appellant respectfully submits that the cited case law does not require Appellant to provide "a direct compare/contrast between the current claim scope and the combination of references."

To the extent the Examiner is asserting that Appellant has merely attacked the references individually, Appellant respectfully disagrees. Indeed, the Third Appeal Brief explains, in several locations, why the asserted combination of references would not have collectively suggested the claimed subject matter. *See, e.g.*, page 9, second to last full paragraph; page 12, line 9 to page 13, line 6; and page 20, first full paragraph of the Third Appeal Brief.

<u>Conclusion</u>

For the reasons explained in the Third Appeal Brief and the additional reasons set forth above, the rejections of Claims 1-55 are improper and should be reversed.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: <u>September 24, 2007</u>   By: /RJS38297/

                                     Ronald J. Schoenbaum
                                     Reg. No. 38,297
                                     2040 Main Street, 14th Floor
                                     Irvine, CA, 92614
                                     Customer No. 20,995
                                     949-721-2950